Assessment of Pro-Neurotensin as a Predictor of Coronary Artery Disease Among Patients with Type 2 Diabetes Mellitus

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Abstract

Background:

Type 2 diabetes mellitus (T2DM) has reached epidemic proportions worldwide. Coronary artery disease (CAD) is one of the most important causes of mortality worldwide.in this regard, measurement of circulating biomarkers has been observed as an option for assessing risk for events beyond standard risk factors.

Pro-Neurotensin (pro-NT) is an intestinal peptide able to promote fat absorption, associated with the pathogenesis of obesity and cardiometabolic diseases. we aimed in the current study to assess the role of pro-NT as predictors of CAD among patients with T2DM in addition to explore their associations with cardiometabolic risk factors.

Participants and methods: This case-control study enrolled 84 patients with T2DM and 42 control group.

The enrolled diabetic patients were classified into two groups: 42 patients without CAD and 42 patients without CAD. All patients were investigated using a 12-lead standard ECG, echocardiography, and coronary arteriography. The serum proneurotensin level was measured using quantitative ELISA kit.

Results:

Proneurotensin level was significantly higher among patients with CAD compared to patients without CAD and control group (154.1 versus 112.8, respectively). There was a significant positive correlation between pro-NT and cholesterol among patients with CAD and a significant negative correlation with HDL among patients without CAD. Interestingly, Pro-NT level more than or equal to 119.1 can be used as a predictor for the occurrence of CAD, with specificity of 61.6%, sensitivity of 71.4%, and accuracy of 66.7%.

Conclusion:

our study demonstrates for the first time, to our knowledge, that pro-NT levels could predict CAD among patients with T2DM.

Keywords:

Proneurotensin ; Type2 Diabetes.